REMARKS

The applicant acknowledges the Examiner's comments regarding restriction and the non-patent literature enclosed with the information disclosure statement filed with the application. With regard to the non-elected claims withdrawn from consideration, the applicant is postponing their cancellation until after reconsideration by the Examiner of the allowability of the generic claims.

The Examiner objected to a reference-numeral informality in Fig. 6 of the drawings and requested correction. Accordingly, the applicant is enclosing an amended Replacement Sheet and an Annotated Marked-up Drawings sheet for the Examiner's review. The undersigned thanks the Examiner for catching the error in the reference numeral 86.

The Examiner rejected elected Claims 1, 8, 10, 47, 54 and 56 under 35 U.S.C. 102(e) as anticipated by Boege (U.S. Patent No. 6,839,179). This patent discloses an optical system configured to reduce the amount of dead space between discrete images of a sample captured by multi-channel optics. As illustrated in the embodiments most relevant to the present invention (Figs. 2 and 6-9) and in the illustration of Fig. 10, the Boege system comprises a plurality of magnifying imaging channels and a

combination of optical elements designed to reduce the interstitial space between channels while retaining the resolution of the image acquired from the object. Each channel produces a separate image of a discrete portion of the object that has independent significance from the rest of the object (that is, each image is complete in itself, the interstitial space is of no interest, and the invention is directed at optimizing detector efficiency by eliminating the dead space). As such, the Boege apparatus includes a plurality of magnifying imaging systems for imaging a plurality of pictures, rather than a single picture.

The present invention, in contrast, is an imaging device wherein the plurality of channels is used for imaging a single picture of the object onto the detector. Accordingly, the first element of Claim 1 recites "a plurality of magnifying imaging systems … for imaging a picture of an object… ." This limitation is not anticipated by any of the Boege embodiments of his invention because they all image discrete pictures of corresponding portions of the object with a one-to-one correspondence between each picture and each channel of the system. That is, there is no correspondence between a plurality of channels and a single picture imaged on the detector. Therefore, no plurality of

channels in the Boege implementation images a picture of the object, as recited in the claim.

Inasmuch as anticipation of this claimed limitation would require construing the claim terms "picture of an object" to read on the collection of discrete pictures the Boege apparatus images on the detector, the applicant respectfully submits that such interpretation would be beyond the reasonably broad reading allowed for claim construction. The term picture is understood in the art to mean only a representation of an object; that is, a picture of a portion of an object is a self-contained image separate from the image of another portion of the object, which would be considered another picture. A different interpretation would allow the word picture to read on any collection of individual images, which clearly would not be correct or acceptable in the art unless those images were also stitched together to form as single picture.

Most importantly, though, Claim 1 also recites "an optical relay system positioned across said plurality of optical axes such that an image of said object is relayed through the relay system." Therefore, the optics involved must be a finite conjugate system capable of relaying an image between conjugate planes. For example, referring to Fig. 8 of the present

invention (corresponding to the elected claims), the image of the object 40 captured by the multi-channel system 32 is formed at the intermediate plane 64 and relayed by the relay system 62 onto the detector 42. No such relaying structure is disclosed in any of the Boege embodiments. This is consistent with the fact that they are only conceived for the purpose of reducing dead space, rather than relaying an image.

Looking at Fig. 2 of the patent, for example, the optics 13 and 15 alone are not capable of relaying an image (as recited in Claim 1) because the system is afocal. That is, it is not, by definition, a finite conjugate system. As a result of the difference in function of Boege's invention with respect to the applicant's, no intermediate image is needed or formed at a conjugate plane of relay optics. In order to meet the relay limitation of the claim, the lenses 12 and 30 would also have to be considered part of the structure that constitutes the claimed optical relay. If that were the case, though, the reference would be missing the plurality of magnifying imaging systems that are also recited in the first limitation of Claim 1.

Thus, the features recited in the first two limitations of Claim 1 are believed to be missing in the embodiments disclosed by Boege. Therefore, the applicant respectfully submits that

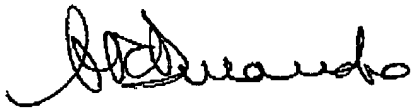
independent Claim 1 and dependent Claims 8 and 10 are not anticipated by this reference.

The same remarks are applicable to Claim 47, which recites the same two limitations with regard to the plurality of imaging systems and the optical relay. In addition, the claim requires that "the light source is imaged into a plurality of pupils corresponding to said plurality of imaging systems," a characteristic feature of Koehler illumination. All embodiments of the Boege invention are discloses with critical illumination wherein the light source is imaged on the object, not on the pupils of the plurality of channels of the imaging system. Therefore, this additional limitation further distinguishes Claim 47 and dependent Claims 54 and 56 from the Boege reference.

In view of the foregoing, Claims 1, 8, 10, 47, 54 and 56 are believed to recite allowable subject matter and reconsideration of the rejection is respectfully requested. The applicant and the undersigned thank the Examiner for the detailed examination and the relevant new art made of record.

A Credit Card Payment Form is enclosed to cover the fee due for a one-month extension of time. Please charge any other amount deemed to be due with this response to our Deposit Account No. 04-1935.

Respectfully submitted,



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ANNOTATED MARKED-UP DRAWINGS

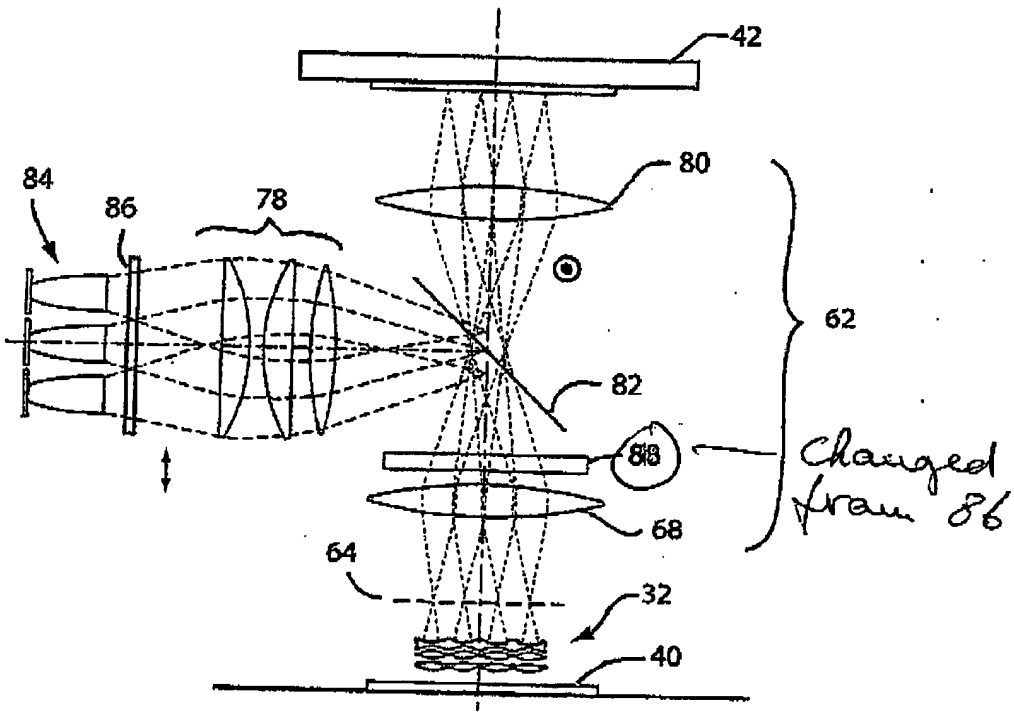

FIG 6